Docket No.: 1576.79 (NIW-009USRCE2)

## **AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A molecular compound selected from the group consisting of hydrates, solvates, adducts and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (I)

$$\begin{array}{c|c} R_1 & R_2 \\ \hline \\ R_5 & R_4 \end{array} \qquad (I)$$

wherein  $R_1$  and  $R_5$  are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, or

wherein Y is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2 to 8 carbons, alkoxy having 1 to 6 carbons, substituted amino, substituted cycloalkyl, substituted phenyl or substituted aralkyl;

Z is selected from the group consisting of alkyl having 1 to 8 carbons, alkenyl having 2-8 carbons, alkoxy having 1 to 6 carbons, hydroxyl, substituted amino, substituted cycloalkyl, substituted phenyl or substituted aralkyl;

R<sub>2</sub> and R<sub>4</sub> are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl or

wherein Y and Z are as defined above, in case when  $R_1$ ,  $R_3$  or  $R_5$  is alkoxy having 1 to 4 carbons or hydroxyl;

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R<sub>3</sub> is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, Formula (II) or Formula (III)

wherein X is selected from the group consisting of

wherein w is 0, 1 or 2; u is 0 or 1; q is 0 to 4; R<sub>14</sub> and R<sub>15</sub> are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, optionally substituted phenyl or optionally substituted aralkyl; R<sub>16</sub> is selected from the group consisting of hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, substituted phenyl or substituted aralkyl;

R<sub>6</sub>, R<sub>9</sub> and R<sub>10</sub> are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, or

wherein Y and Z are as defined above;

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R<sub>7</sub>, R<sub>8</sub>, R<sub>11</sub> and R<sub>13</sub> are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons or hydroxyl, but R<sub>11</sub> is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl or

wherein Y and Z are as defined above in case when  $R_{12}$  is alkoxy having 1 to 4 carbons or hydroxyl;  $R_{12}$  is selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl or selected from the group consisting of

wherein Y and Z are as defined above, or selected from the group consisting of

wherein Y and Z are as defined above, or-provided that when  $R_3$  is of Formula (II), one of  $R_1$ ,  $R_5$ ,  $R_6$  and  $R_9$  is selected from the group consisting of

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wherein Y and Z are as defined above, when  $R_3$  is of Formula (III), at least one of  $R_1$ ,  $R_5$  and  $R_{10}$  is selected from the group consisting of

where Y and Z are as defined above, and

when  $R_3$  is selected from a group other than the group consisting of Formula (II) or (III), either  $R_1$  or  $R_5$  is selected from the group consisting of

wherein Y and Z are as defined above, and

the phenol derivative is reacted with an organic compound under conditions sufficient to form the molecular compound selected from the group consisting of hydrates, solvates, adducts and clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

 (Currently Amended) A molecular compound selected from the group consisting of hydrates, solvates, adducts and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (IV)

$$R_{17}$$
  $R_{18}$   $R_{21}$   $R_{22}$   $R_{20}$   $R_{19}$   $R_{24}$   $R_{23}$   $R_{23}$   $R_{24}$   $R_{24}$   $R_{25}$   $R_{25}$ 

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wherein A is selected from the group consisting of

$$-s(O)w - -O - -C - (CH2)u - CH3 - CH3$$

wherein w is 0, 1 or 2 and u is 0 or 1;

R<sub>18</sub>, R<sub>19</sub>, R<sub>21</sub> and R<sub>24</sub> are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons;

 $R_{17}$  is selected from the group consisting of

wherein Y and Z are selected from the group consisting of

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α-methylbenzyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, or

naphthyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

 $R_{20}$ ,  $R_{22}$  and  $R_{23}$  are same or different, hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons or the same groups as those for  $R_{17}$ , and

an organic compound, as the other reactant under conditions sufficient to form the molecular compound selected from the group consisting of hydrates, solvates, adducts and clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

 (Previously Presented) A molecular compound selected from the group consisting of hydrates, solvates, adducts and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (V)

$$R_{25}$$
  $R_{26}$   $HO$   $R_{29}$   $R_{30}$   $R_{28}$   $R_{27}$   $R_{32}$   $R_{31}$   $(V)$ 

wherein B is a group selected from

$$-s(O)w - -O - -\frac{C}{C} + \frac{CH_3}{C} + \frac{CH_3}{C} + \frac{CH_3}{CH_3} + \frac{CH_3}{CH_3}$$

wherein w is 0, 1 or 2 and u is 0 or 1;

 $R_{26}$ ,  $R_{27}$ ,  $R_{30}$  and  $R_{32}$  are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons;

R<sub>25</sub>, R<sub>28</sub>, R<sub>29</sub>, R<sub>31</sub> are same or different selected from the group consisting of hydrogen, halogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons or

wherein Y and Z are selected from the group consisting of

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α-methylbenzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, or naphthyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and at least one of R25, R28 and R29 is selected from the group consisting of

wherein Y and Z are selected from the group consisting of alkyl having 1 to 6 carbons, alkenyl having 2 to 6 carbons,

cyclohexyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α-methylbenzyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, or naphthyl which may have alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

an organic compound as the second reactant under conditions sufficient to form the molecular compound selected from the group consisting of hydrates, solvates, adducts and clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

4. (Currently Amended) A molecular compound selected from the group consisting of hydrates, solvates, adducts and clathrate compounds prepared by the method of reacting a phenol derivative represented by Formula (VI)

wherein R<sub>33</sub> is selected from the group consisting of

wherein Y and Z are selected from the group consisting of

alkyl having 1 to 6 carbons,

alkenyl having 2 to 6 carbons,

cyclohexyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

cyclopentyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or halogen,

benzyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

phenethyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen,

α-methylbenzyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, or

naphthyl which may have optionally substituted with alkyl having 1 to 4 carbons or alkenyl having 2 to 4 carbons or alkoxy having 1 to 4 carbons or hydroxyl or halogen, and

R<sub>34</sub>, R<sub>35</sub>, R<sub>36</sub> and R<sub>37</sub> are same or different selected from the group consisting of hydrogen, alkyl having 1 to 4 carbons, alkenyl having 2 to 4 carbons, alkoxy having 1 to 4 carbons, hydroxyl, halogen or the same groups as those for R<sub>33</sub> with an organic compound as the second reactant under conditions sufficient to form the molecular compound selected from the group consisting of hydrates, solvates, adducts and clathrate compounds having the phenol derivative as a constituent, the constituent being a host.

## 5-11. (Canceled)

12. (Previously Presented) A molecular compound according to Claim 1, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (I), (IV), (V) and (VI); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides,

noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants vulcanization accelerators and organic solvents.

13. (Previously Presented) A molecular compound according to Claim 2, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (I), (IV), (V) and (VI); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants vulcanization accelerators and organic solvents.

14. (Previously Presented) A molecular compound according to Claim 3, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (I), (IV), (V) and (VI); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants vulcanization accelerators and organic solvents.

15. (Previously Presented) A molecular compound according to Claim 4, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (I), (IV), (V) and (VI); and

a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for

coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants vulcanization accelerators and organic solvents.

16. (Previously Presented) A molecular compound according to Claim 1, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (I); and a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants vulcanization accelerators and organic solvents.

17. (Previously Presented) A molecular compound according to Claim 2, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (IV); and a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants vulcanization accelerators and organic solvents.

18. (Previously Presented) A molecular compound according to Claim 3, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (V); and a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants vulcanization accelerators and organic solvents.

19. (Previously Presented) A molecular compound according to Claim 4, in which the molecular compound contains, as constituents:

a phenol derivative selected from the group consisting of Formula (VI); and a material that reacts with the phenol derivative to form a molecular compound selected from the group consisting of antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents for coating materials, accelerators for coating materials, resins, adhesives, natural essential oils, antioxidants vulcanization accelerators and organic solvents.

## 20-27. (Canceled)

28. (Previously Presented) The molecular compound prepared according to the method of claim 1, wherein the organic compound is selected from the group comprising:

antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents and accelerators for coating materials, resins and adhesives, natural essential oils, antioxidants, vulcanization accelerators or organic solvents, that react with the said phenol derivative to form the molecular compound.

29. (Previously Presented) The molecular compound prepared according to the method of claim 2, wherein the organic compound is selected from the group comprising:

antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents and accelerators for coating materials, resins and adhesives, natural essential oils, antioxidants, vulcanization accelerators or organic solvents, that react with the said phenol derivative to form the molecular compound.

30. (Previously Presented) The molecular compound prepared according to the method of claim 3, wherein the organic compound is selected from the group comprising:

antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents and accelerators for coating

materials, resins and adhesives, natural essential oils, antioxidants, vulcanization accelerators or organic solvents, that react with the said phenol derivative to form the molecular compound.

31. (Previously Presented) The molecular compound prepared according to the method of claim 4, wherein the organic compound is selected from the group comprising:

antibacterial agents, antifungal agents, insecticides, noxious insect repellants, perfumes, deodorants, antifouling agents, curing agents and accelerators for coating materials, resins and adhesives, natural essential oils, antioxidants, vulcanization accelerators or organic solvents, that react with the said phenol derivative to form the molecular compound.